

## **REMARKS**

### **I. Introduction**

Pending claims 1-13 have been examined. The Examiner acknowledges that claims 4-6 and 10-11 contain allowable subject matter. However, claims 1-3, 7-9 and 12-13 are rejected. Specifically, the Examiner continues to apply Guelich, U.S. Patent No. 5,841,020 (hereinafter "Guelich") in rejecting claims 1-3 and 7-9, as well as recently added claims 12 and 13. By way of overview, Applicants respectfully request that the Examiner reconsider this grounds of rejection, for at least the exemplary reasons set forth below.

### **II. Allowable Subject Matter**

The Examiner objects to claims 4-6 and 10-11 as being dependent upon a rejected base claim, but the Examiner acknowledges that claims 4-6 and 10-11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Additionally, the Examiner generally acknowledges that these claims are allowable based on the features recited therein, and Applicants further note that each of claims 4-6 and 10-11 are allowable based on the entirety of the features recited therein.

Applicants respectfully request that the Examiner hold the rewriting requirement in abeyance pending consideration of the following remarks.

**III. Claim Rejections -- 35 U.S.C. § 102(b)**

Claims 1-3, 7-9 and 12-13 stand rejected under § 102(b) as allegedly being anticipated by Guelich.

Claims 1, 12 and 13

Claim 1 is directed to “a method of monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure” (*see also* claims 12 and 13). Thus, claim 1 requires an electrical switchgear enclosure (*see also* claims 12 and 13). Indeed, particular issues arise in the context of electrical switchgear that is insulated by a gas mixture. For example and not by way of limitation, to maintain a breaking capacity that is satisfactory in such electrical switchgear, it is essential for a proportion of at least one component gas of the gas mixture to remain constant even in the event of leakage (*see* Applicants’ Specification: page 1, lines 20-28). Otherwise, differential losses between the two or more components of the gas mixture can give rise to loss of performance in terms of breaking capacity (*Id.*).

On page 2 of the Office Action, the Examiner alleges that Guelich discloses a gaseous mixture, having at least two components, that is contained in an electrical switchgear enclosure (*citing* Guelich: Fig. 1: units 14 and 8). To the contrary, in no way does Guelich relate to electrical switchgear equipment, such as the gas-insulated high-voltage circuit breaker illustrated in Applicants’ Fig. 1. Instead, Guelich describes a container (illustrated in Fig. 1a of Guelich) into which a multi-phase fluid flows and is separated in the container with the liquid components collecting as a liquid volume 14 and the gaseous components collecting as a gaseous volume 10

(Guelich: col. 3, lines 16-23). The fluids located in the container 1 are conducted back out of the container 1 or drawn off in a flowing manner via a removal device 6, 8 that includes at least one drainage means 6 as well as a drainage means 8 following it (Guelich: col. 3, lines 32-36). Thus, contrary to the Examiner's allegation, neither fluid volume 10 nor the second drainage means 8 corresponds to the electrical switchgear enclosure, as recited in claim 1 (*see also* claims 12 and 13).

Furthermore, claim 1 recites, *inter alia*, "determining said proportion by processing the measured values in a data-processing unit" (*see also* claims 12 and 13). Thus, claim 1 requires determining a proportion of a component of the gaseous mixture by processing measured values of pressure, temperature and density of the gas mixture (*see also* claims 12 and 13). By way of example and not by way of limitation, the method of claim 1 (*see also* claims 12 and 13) allows a determination of the proportion of N<sub>2</sub> in a gaseous mixture of N<sub>2</sub>/SF<sub>6</sub> or the proportion of CF<sub>4</sub> in a gaseous mixture of CF<sub>4</sub>/SF<sub>6</sub> (*see* Applicants' Specification: page 1, lines 20-28).

On page 2 of the Office Action, the Examiner alleges that Guelich discloses determining the recited proportion by processing the measured values in a data-processing unit (*citing* Guelich: col. 1, lines 20-25; col. 1, line 50 to col. 2, line 48; and col. 4, lines 11-64). To the contrary, Guelich describes that a pressure sensor 11 and a temperature sensor 15 are arranged in the region of the gas volume 10 at the upper end of the container 1 in order to measure the temperature of the gaseous component of the multi-phase fluid as well as the pressure of the gaseous component of the multi-phase fluid (Guelich: col. 1, lines 63 to col. 2, line 2; and Fig. 1a). Additionally, Guelich describes a Venturi nozzle 9, which is located in the region of an inlet

opening 6a of the drainage means 6, for measuring (via pressure sensor 12) the flow rate of the gaseous component flowing therethrough (Guelich: col. 3, lines 52-63; and Fig. 1a). In Guelich, a signal evaluation apparatus which receives the measured values calculates a total flow rate, a flow rate of the liquid components, as well as a flow rate of the gaseous components, from the measured values (Guelich: Abstract).

The flow rates calculated in Guelich do not correspond to determining the proportion of one gas to the other gases in a gaseous mixture. Therefore, Guelich fails to disclose or suggest “determining said proportion by processing the measured values in a data-processing unit”, as recited in claim 1 (*see also* claims 12 and 13).

Further still, the method of claim 1 allows the proportion of a component in a gaseous mixture contained in an electrical switchgear enclosure to be monitored in a non-intrusive manner (*see also* claims 12 and 13). For example and not by way of limitation, the gas mixture does not have to be tapped, which is not compatible with the operating conditions of gas-insulated electrical switchgear, in order to be monitored (*see* Applicants’ Specification: page 2, lines 2-5). Instead of disclosing a gastight electrical switchgear enclosure, Guelich describes a container 1, wherein a multi-phase fluid is conducted to the container 1 via a supply tube 2 and wherein the liquid and gaseous components separated from the multi-phase fluid are led out of the container 1 via drainage means 6, 8 (Guelich: col. 3, lines 16-18; and col. 4, lines 38-42). Thus, given these fundamental differences between the container 1 of Guelich and the electrical switchgear enclosure (*e.g.*, gastight enclosure 1 of Applicants’ Fig. 1) of claim 1 (*see also* claims 12 and 13), Guelich fails to disclose and cannot possibly suggest enabling a proportion of a

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gaseous component of a gaseous mixture having at least two components to be monitored non-intrusively.

For at least the above exemplary reasons, claims 1, 12 and 13 are not anticipated by Guelich.

Claims 2-3 and 7-9

Consequently, claims 2-3 and 7-9 are not anticipated by Guelich at least by virtue of their dependency, as well as the additional features recited therein.

For example and not by way of limitation, claim 9 recites “electrical switchgear provided with an enclosure containing a mixture of at least two dielectric gases under pressure, wherein the proportions of the dielectric gases in the mixture are determined by implementing a method according to claim 1”. The Examiner alleges that Guelich discloses these features of claim 9 at col. 2, lines 11-48. To the contrary, Guelich merely describes a multi-phase fluid having both liquid and gaseous components (Guelich: col. 1, lines 14-19). Guelich fails to disclose or suggest a gaseous mixture of at least two dielectric gases, as recited in claim 9. Indeed, Guelich makes no mention of any dielectric gas.

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#### IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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**23373**

CUSTOMER NUMBER

Date: March 2, 2004